

Flip Flops

Lecture 28
Section C.8

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1 D Flip Flops

2 Assignment

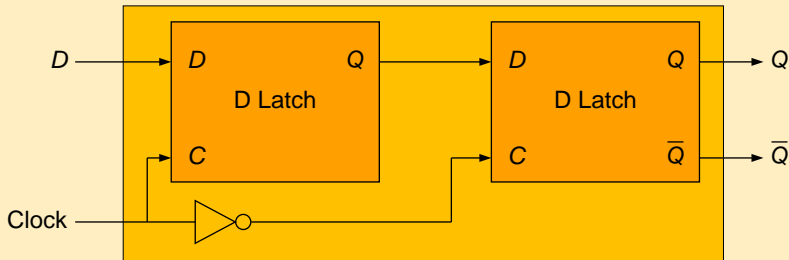
Outline

1 D Flip Flops

2 Assignment

D Flip Flops

D Flip Flop



- The Clock will alternately set the value of the first latch or the second latch.

D Flip Flops

D Flip Flop



- Track the values of Q and \bar{Q} over time as the clock C and the input D changes.

D Flip Flops

- **Set-up time** is the time it takes for data to stabilize before the rising clock edge.
- **Hold time** is the time the data must be stable after the rising clock edge.
- The value Q of the D Flip Flop is changed on the falling edge of the clock.

D Flip Flops

- The D Flip Flop is not transparent.
- The input is stored when $\text{Clock} = 1$, but it appears as output only when $\text{Clock} = 0$.

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- Read Section C.8.